

## Amalie L. Frischknecht

### Nanoscience Related Publications

(Selected journal publications)

- *Self-assembly in a mixed polymer brush with inhomogeneous grafting density composition*, S.M. Hur, A. L. Frischknecht, D. L. Huber, and G. H. Fredrickson, *Soft Matter* (2013).
- *Dispersion of polymer-grafted nanorods in homopolymer films: theory and experiment*, A. L. Frischknecht, M. J. A. Hore, J. Ford, and R. J. Composto, *Macromolecules* **46**, 2856 (2013).
- *Atomistic simulations predict a surprising variety of morphologies in precise ionomers*, D. S. Bolintineanu, M. J. Stevens, and A. L. Frischknecht, *ACS Macro Lett.* **2**, 206 (2013).
- *Dynamics of model ionomer melts of various architectures*, L. M. Hall, M. J. Stevens, and A. L. Frischknecht, *Macromolecules* **45**, 8097 (2012).
- *Surface-induced phase behavior of polymer/nanoparticle blends with attractions*, A. L. Frischknecht, V. Padmanabhan, and M. E. Mackay, *J. Chem. Phys.* **136**, 146904 (2012).
- *Toward quantitative coarse-grained models of lipids with density functional theory*, L. J. D. Frink, A. L. Frischknecht, M. A. Heroux, M. L. Parks, and A. G. Salinger, *J. Chem. Theory Comput.* **8**, 1393 (2012).
- *Ionic aggregate structure in ionomer melts: effect of molecular architecture on aggregates and the ionomer peak*, L. M. Hall, M. E. Seitz, K. I. Winey, K. L. Opper, K. B. Wagener, M. J. Stevens, and A. L. Frischknecht, *J. Am. Chem. Soc.* **134**, 574 (2012).
- *Exploring lateral microphase separation in mixed polymer brushes by experiment and self-consistent field theory simulations*, A. D. Price, S. M. Hur, G. H. Fredrickson, A. L. Frischknecht, and D. L. Huber, *Macromolecules*, **45**, 510 (2012).
- *Nanorod assemblies in polymer films and their dispersion-dependent optical properties*, M. J. A. Hore, A. L. Frischknecht, and R. J. Composto, *ACS Macro Lett.* **1**, 115 (2012).
- *Effect of chain stiffness on nanoparticle segregation in polymer/nanoparticle blends near a substrate*, V. Padmanabhan, A. L. Frischknecht, and M. E. Mackay, *Macromol. Theory Simul.* **21**, 98 (2012).
- *Self-consistent field simulations of self- and directed-assembly in a mixed polymer brush*, S. M. Hur, A. L. Frischknecht, D. L. Huber, and G. H. Fredrickson, *Soft Matter* **7**, 8776 (2011).
- *Two- and three-body interactions among nanoparticles in a polymer melt*, A. L. Frischknecht and A. Yethiraj, *J. Chem. Phys.* **134**, 174901 (2011).
- *Effect of polymer architecture and ionic aggregation on the scattering peak in model ionomers*, L. M. Hall, M. J. Stevens, and A. L. Frischknecht, *Phys. Rev. Lett.*, **106**, 127801 (2011).
- *Grafted low molecular weight polymers as steric stabilizers of commercial titania nanoparticles in polydimethylsiloxane fluids*, N. S. Bell, A. L. Frischknecht, and M. Piech, *J. Dispersion Sci. Technol.* **32**, 128 (2011).
- *Binary fluid with attractions near a planar wall*, V. Padmanabhan, A. L. Frischknecht, and M. E. Mackay, *Phys. Rev. E* **82**, 021507 (2010).
- *Expanded chain dimensions in polymer melts with nanoparticle fillers*, A. L. Frischknecht, E. S. McGarry, and M. E. Mackay, *J. Chem. Phys.* **132**, 204901 (2010).

## Amalie L. Frischknecht - Publications

- *Three-dimensional liquid surfaces through nanoparticle self-assembly*, T.C. Tseng, E. S. McGarrity, J. W. Kiel, P. M. Duxbury, M. E. Mackay, A. L. Frischknecht, S. Asokan, and M. S. Wong, *Soft Matter* **6**, 1533 (2010).
- *Modeling microscopic morphology and mechanical properties of block copolymer/nanoparticle composites*, J.Z. Jin, J.Z. Wu, and A.L. Frischknecht, *Macromolecules* **42**, 7537 (2009).
- *Calculation of entropic terms governing nanoparticle self-assembly in polymer films*, E.S. McGarrity, P.M. Duxbury, M.E. Mackay, and A.L. Frischknecht, *Macromolecules* **41**, 5952 (2008).
- *Forces between nanorods with end-adsorbed chains in a homopolymer melt*, A.L. Frischknecht, *J. Chem. Phys.* **128**, 224902 (2008).
- *Simulation of the adsorption of nucleotide monophosphates on carbon nanotubes in aqueous solution*, A. L. Frischknecht and M. G. Martin, *J. Phys. Chem. C* **112**, 6271-6278 (2008).
- *Phase behavior of polymer/nanoparticle blends near a substrate*, E.S. McGarrity, A.L. Frischknecht, and M.E. Mackay, *J. Chem. Phys.* **128**, 154904 (2008).
- *Surface-induced first order transition in athermal polymer/nanoparticle blends*, E.S. McGarrity, A. L. Frischknecht, L. J. D. Frink, and M. E. Mackay, *Phys. Rev. Lett.* **99**, 238302 (2007).
- *Computational investigations of pore forming peptide assemblies in lipid bilayers*, L.J.D. Frink and A.L. Frischknecht, *Phys. Rev. Lett.* **97**, 208701 (2006).
- *Alcohols reduce lateral membrane pressures: predictions from molecular theory*, A.L. Frischknecht and L.J.D. Frink, *Biophys. J.* **91**, 4081 (2006).
- *Comparison of density functional theory and simulation of fluid bilayers*, A.L. Frischknecht and L. J. D. Frink, *Phys. Rev. E* **72**, 041924 (2005).
- *Density functional theory approach for coarse-grained lipid bilayers*, L. J. D. Frink and A. L. Frischknecht, *Phys. Rev. E* **72**, 041923 (2005).
- *Numerical challenges in the application of density functional theory to biology and nanotechnology*, L. J. D. Frink, A. G. Salinger, M. P. Sears, J. D. Weinhold, and A. L. Frischknecht, *J. Phys.: Condens. Matter*, **14**, 12167 (2002).
- *Density Functional Theory for Inhomogeneous Polymer Systems: II. Application to Block Copolymer Thin Films*, A.L. Frischknecht, J. G. Curro and L. J. D. Frink, *J. Chem. Phys.* **117**, 10398 (2002).